



Central Okanagan Agricultural Sector Report

July 2019



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1. Executive Summary

The Regional District of Central Okanagan's Economic Development Commission (COEDC) engaged MDB Insight to develop an Agricultural Asset inventory and an analysis of the sector, including key opportunities for growth and Foreign Direct Investment (FDI).

The Central Okanagan's Agriculture and Agri-food sector is defined by its restrictive geography and a climate suitable to a diverse range of agricultural activities. The former is a function of mountain valley landscapes that restrict development, and the latter has allowed for an agricultural sector that could not exist elsewhere in Canada.

Since the first apple trees planted in 1859, agriculture has been a major contributor to the local economy. The climate of the Central Okanagan creates opportunities to grow high-value tree fruits and wine grapes, which are the core product lines of the sector today. As of the December 2018 Canadian Business Counts released by Statistics Canada, there are 794 agri-food businesses in the Central Okanagan the top three sectors by total number of businesses are¹:

- Fruit and tree nut farming (299)
- Other Crop Farming (103)
- Beverage Manufacturing (74)

These sectors highlight the market requirement for high-value crops and value-added production due to both land restriction and cost.

A major component of the sector's current and future success is Agricultural Land Reserve (ALR) created in 1974 currently protecting 4,613,162 hectares (5% of the total area) of prime agricultural land within British Columbia (BC). The ALR constitutes approximately 224,780 hectares² or 9% of the Central Okanagan's overall area, ensuring prime agriculture land in the region is protected. This protection has served to mitigate the growth and resulting land development pressures experienced in other jurisdictions.

The Central Okanagan has become a community of choice in Canada. The population is projected to increase by 27,559 people by 2028. This projected population growth, combined with rising labour and housing costs, will put pressure on the agriculture and agri-food sector to increase productivity and profitability. This increased population growth and interest in the Central Okanagan has been accompanied by an expansion in the tourism industry with a major component being agri-tourism driven primarily by the region's wine industry.

The agriculture industry is especially susceptible to the challenges of an ageing workforce. Central Okanagan, like much of North America, is susceptible to an increasing trend toward farm consolidation due in large part to a lack of viable successions strategies for the family-run farm. The trend toward consolidation is attracting investors to the Central Okanagan but introduces risk with the reduction of diversity and stability of the industry.

¹ Statistics Canada Canadian business counts, December statcan.gc.ca/n1/daily-quotidien/190207/dq190207d-cansim-eng.htm

² ALC Annual Report 2017-2018 alc.gov.bc.ca/assets/alc/assets/library/commission-reports/annual_report_2017-2018.pdf

Given these factors, the greatest opportunities for growth and investment in the Central Okanagan fall under three distinct categories:

1. Strengthen and expand the capacity of the existing sector

The local agriculture industry has a high proportion of small farmers who are growing a diversified range of products and selling directly to consumers. Key opportunities to support these producers include:

- Supporting enhanced efficiencies through the adoption of emerging production and distribution technologies
- Supporting/facilitating expanded value-added processing of primary products
- Supporting local producers in their succession planning efforts to protect diversity and ensure long term sustainability
- Enhancing the capacity of producers to identify and leverage agri-tourism opportunities cohesively and sustainably that both brings economic value and supports the growth of the agri-tourism sector overall

2. FDI Attraction

The current investment trends in the Central Okanagan have been focused on vineyards and the primary production of high-value commodities (i.e. Cherries). These investments have created opportunities in the region but are not necessarily the best long-term focus sectors for FDI due to volatility in access to major international markets, i.e. China. Functional foods and ingredients are typically where the greatest opportunities for investment lie because of the increased economic benefit of value-added production, higher-wage jobs and investment in technology.

Key Investment Opportunities for the Central Okanagan include:

- Agri-tech businesses in sub-sectors of relative strength including:
 - Automation of packing and processing agricultural products
 - Pest tracking/reduction connected to research and development in the region, such as the [Okanagan-Kootenay Sterile Insect Release Program \(SIR\)](#)
- Precision agriculture technologies, including water and high-value crop sensors that track grape and cherry growth
- Cannabis growers, processors, and products developers as the industry (still in its infancy) expands – The cannabis sector is unique as it is tied to government regulations and therefore, does not necessarily overlap with all traditional agriculture hubs. Oregon and Washington State, as well as Nevada, become more prominent targets. International investments are also still almost exclusively coming from the US
- Farm production, processing and packing equipment manufacturing
- Functional foods and ingredients such as grape-based food additives, dietary supplements, and bulk nutraceuticals are key investment opportunities
- Partnering with research institutions to promote the benefits of the Central Okanagan’s capabilities, talent and facilities

- Processing waste products from agriculture into composite materials connected to research and development in the region from the [Composites Research Network Node at UBCO](#)
- Supply chain development focused on the top leakage sectors (These are sub-sectors where \$500,000+ a year is spent outside the region indicating a market opportunity to supply local firms) including:
 - Agricultural chemicals
 - Animal food
 - Plastic and rubber products for the supply chain and equipment
 - Machinery and electrical equipment
- Targeted FDI attraction that supports import substitution, including:
 - Agri-tech companies in the United States: concentrated in California, Colorado and New York, Minnesota, Iowa and Illinois
 - Agri-tech companies overseas: Germany, Israel, and Switzerland

3. Enhancing Investment Readiness

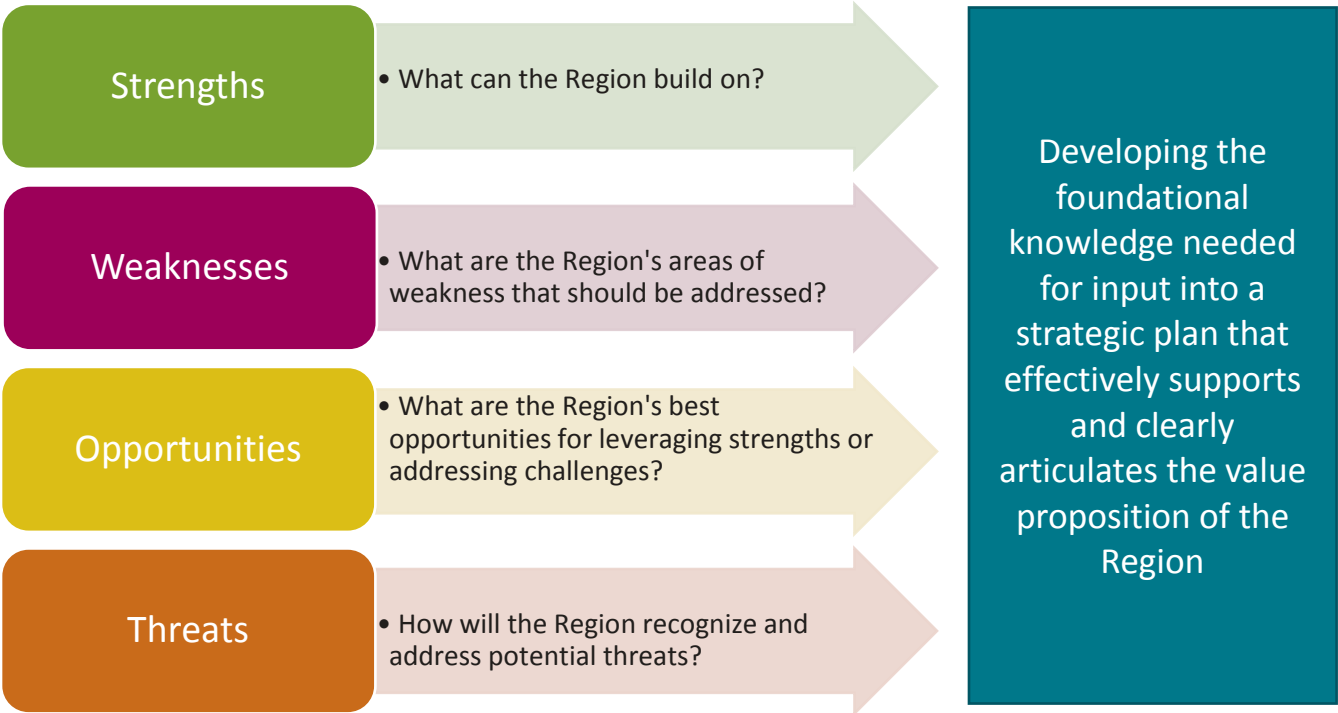
The Regional District of the Central Okanagan should consider developing a strategy for supporting producers to expand/attract investment. Recommendations to enhance effectiveness in attracting investment to the sector include:

- Providing enhanced data and information resources to articulate sector-specific value propositions for local producers (i.e. The Central Okanagan Agriculture Asset Inventory)
- Integrate sector / industry-specific value propositions into the region's larger investment attraction strategy
- Provide education and support to local businesses to support their capacity to engage with investors in key sectors effectively
- Arrange/Support/Promote international investment missions and business matchmaking

1.1 Strengths, Weaknesses, Opportunities and Threats (SWOT)

A SWOT Assessment is a model for understanding an industry informed by studying strengths, weaknesses, opportunities, and threats. The key concepts underpinning the SWOT model are outlined in the figure below. The SWOT Assessment is used to validate the data analysis. Data analysis alone may not capture emerging trends and opportunities being experienced by those “on the frontlines.” The SWOT Assessment allows for key industry stakeholders to provide important context that helps to clarify the Region’s understanding of current and future opportunities for growth.

Figure 1: Key Considerations for a SWOT Analysis



This section comprises a summary of the key learnings uncovered through the engagement process with stakeholders and reflects the opinions of the participants. Further engagement summaries are found in Section 3.

Strengths

S	Strengths What can the Region build on?	<ul style="list-style-type: none"> What is the Region doing well? What key achievements should the Region be most proud of? What positive aspects have individuals and enterprises commented on?
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- The local research and training infrastructure including Summerland Research Centre, UBCO and Okanagan College;
- The region’s climate, hot, dry, with a high number of sunny days and low pest numbers, provides ideal conditions for agriculture;
- The Central Okanagan’s local community support including farmers markets, direct buying and buy local initiatives;
- An array of strong industry associations that are actively promoting their sectors and providing support;
- Proximity to Vancouver and access to international markets;
- The Agricultural Land Reserve (ALR) protecting and preserving farmland for food production;
- Diversity of products able to be grown in the area and local value-added production (Wine, jam, juices);
- Access to adequate water for agriculture irrigation; and
- Specifically developed high-value fruit varieties (i.e. Apples, Cherries) for export.

Weaknesses

W	Weaknesses What are the Region’s areas of weakness that should be addressed?	<ul style="list-style-type: none"> What negative changes does the Region expect to see in the future? What external forces or trends may negatively affect development? What are the key areas where we are falling behind? What should we be focusing on that is not currently doing well?
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- Specific crops and activities silo the industry and producers are becoming more consolidated;
- The consolidation of retailers has given that market a lot of power over producers;
- Accessing support programming is difficult and seems only to be accessible to major industries and players;
- Producers are not diversifying their crops or investing in secondary processing at market speed;
- Capital to purchase or lease equipment is lacking, and the cost is high;
- Access to labour/temporary farmworkers is becoming more expensive and difficult;

- Inflexible regulations that make it difficult for farmers to innovate;
- Lack of local agriculture-based university programs to train new farmers/workforce;
- Loss of buffer lands between agriculture and housing causing conflict between homeowners and farmers; and
- The research and education institutions have limited communication with the public and with farmers. There is a perception of a lack of communication with/awareness of support agencies that they “don’t tell the story of agriculture.”

Opportunities

O	<p>Opportunities</p> <p>What are the Region’s best possible future opportunities?</p>	<ul style="list-style-type: none"> • What changes in demand does the Region expect in the future? • What external forces or trends may positively affect development? • What are the key areas of untapped potential? • What weaknesses or threats can be converted into SMART improvements?
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- More diversity of production on farms and direct sales through consumer supported agriculture;
- Access to more marketing platforms and improved logistics technology;
- Agritourism growth as a value-add for existing operators to diversify revenue streams (wine, culinary, farm tours)
- Increasing demand from consumers for better local food;
- Increasing investments in technology and equipment;
- Climate change has the potential to create opportunities for new crops/longer growing seasons;
- Value-added product development (i.e. meet needs of changing market demands); and
- Increasing support programs for smaller scale, diversified producers who sell directly to the consumer.

Threats

T	<p>Threats</p> <p>How will the Region recognize and mitigate or eliminate potential threats?</p>	<ul style="list-style-type: none"> • What challenges should the Region be aware of? • What policy shifts could impact the Region’s aspirations? • What contingencies should the Region implement to address threats or unexpected consequences?
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- Cost to upgrade traceability systems, focus on outbreaks in the food supply create risks for farmers;
- Very difficult/expensive for young people/new farmers to get into the industry as capital costs (land, improvements) are high;
- Current operators are retiring from/ exiting the industry without succession plans;

- Operator experiences seem disconnected from legislation and backlog from the province slow the pace of innovation across multiple subsectors of agriculture;
- International trade battles hurt farmers;
- Climate change will accelerate conflicting demands between urban and farm use;
- Future water availability and quality;
- Urban density in proximity to farms creating conflicts; and
- Some producers are unable or unwilling to upgrade or invest in technology/equipment and are being left behind/consolidated.

1.2 Background Document Review – Common Threads Analysis

A detailed review of all relevant municipal reports and policy documents has been conducted for the Regional District of Central Okanagan. Documents reviewed include:

- RDCO Regional Growth Strategy: Priority Projects Plan, 2017
- Central Okanagan Economic Profile for Agriculture, July 2017
- City of Kelowna Agriculture Plan, August 2017
- Central Okanagan Small Scale Food Processing Study, 2015
- City of West Kelowna Westbank Centre Agriculture Plan
- District of West Kelowna Agriculture Plan, 2011
- City of Kelowna Agricultural Land Use Inventory, 2014
- Central Okanagan Economic Development Commission 2019 Operational Plan
- Innovation Ecosystem in BC's Interior Region: Asset Inventory
- BC Ministry of Agriculture First Nations Agriculture Needs Assessment
- Analysis of Food and Farming Assets in the Golden Horseshoe

The documents have been analyzed comparatively to uncover areas of thematic overlap. The policies have been cataloged according to common themes to observe patterns – in essence, to find the “common threads” among them.

The following observations are important, as they highlight themes that are strongly represented in the current policy framework internally, and where there is alignment with external policies in areas of importance. Further, it allows the identification of gaps that exist where key themes and areas of importance do not currently have prominence in the municipal policy framework. If these gaps represent key objectives or priorities that are identified through the research and community engagement process, they heighten awareness for further examination to ensure effective alignment with future priorities.

The common threads identified among the policies and documents examined above include:

- Business Planning and Support – Assisting current agri-businesses and entrepreneurs get into the agricultural industry through business planning, financial and regulatory support
- Intensification – Focus on increasing outputs from decreasing agricultural land base and smaller farm parcel sizes
- Specialty Crop Development – Adapt to changing consumer demands for organic, specialty food products
- Succession Planning – Providing succession planning tools to farmers/agricultural producers so that they can pass on operations to the next generation or make available for sale
- Information Sharing – Ensuring current resources are widely available across the region and development of central hub of information
- Policy Planning – Protection of the Agricultural Land Reserve (ALR) and innovative planning of the areas where urban growth abuts agricultural areas recognizing increased interface zones
- Agri-Tourism – Marketing and product development assistance aimed at supporting agri-tourism businesses and growing the suite of experiences aimed at local and inbound visitors.
- Infrastructure Development – Irrigation infrastructure and secure water supply is required for growth of the agriculture sector
- Urban Agriculture – Incorporating community gardens and urban agriculture into existing and new developments
- Innovation and Technology – Capitalizing on the Sterile Insect Replacement program and applied research partnerships with UBCO and Okanagan College to advance and commercialize agri-technologies
- Promotion – Continue to ensure that agriculture and agricultural practices are appreciated by the increasingly urban population

The figure below presents a common threads matrix, showing the association between each theme relative to the documents it has been identified in via a series of check marks. A single check mark (✓) indicates the document has some content relating to the theme, but it is not a primary focus of the document, while a double check mark (✓✓) indicates there is a primary focus on the theme.

Figure 2: Common Threads Analysis

Common Themes	Business Planning/ Support	Intensification	Specialty Crop Development	Succession Planning	Information Sharing	Policy Planning	Agri-Tourism	Infrastructure Development	Urban Agriculture	Innovation & Tech	Promotion
RDCO Regional Growth Strategy: Priority Projects Plan, 2017						✓✓		✓✓			
Central Okanagan Economic Profile for Agriculture 2017	✓✓	✓✓	✓✓	✓✓	✓✓	✓✓	✓✓	✓✓	✓✓	✓✓	✓✓
City of Kelowna Agriculture Plan 2017	✓✓	✓✓	✓✓	✓✓	✓✓	✓✓	✓✓	✓	✓✓	✓✓	✓✓
Central Okanagan Small Scale Food Processing Study 2015	✓✓	✓	✓✓	✓✓	✓	✓	✓	✓✓	✓✓	✓	✓✓
City of West Kelowna Westbank Centre Agriculture Plan	✓✓	✓✓	✓✓	✓✓	✓✓	✓✓	✓✓	✓	✓✓	✓✓	✓✓
District of West Kelowna Agriculture Plan 2011	✓✓	✓✓	✓✓	✓✓	✓✓	✓✓	✓✓	✓	✓✓	✓✓	✓
Central Okanagan Economic Development Commission 2019 Operational Plan	✓✓	✓✓	✓✓	✓✓	✓✓	✓✓				✓✓	
Innovation Ecosystem in BC's Interior Region: Asset Inventory	✓✓							✓✓		✓✓	
City of Kelowna Agricultural Land Use Inventory, 2014	✓✓	✓✓	✓✓	✓✓	✓✓	✓✓	✓✓	✓✓	✓✓	✓	
BC Ministry of Agriculture First Nations Agriculture Needs Assessment	✓✓	✓✓	✓✓	✓✓	✓✓	✓✓	✓✓	✓✓	✓✓	✓✓	
WINE BC 2030: British Columbia Wine Industry Strategic Plan	✓✓		✓✓		✓✓	✓	✓✓			✓✓	✓✓
Analysis of Food and Farming Assets in the Golden Horseshoe	✓✓	✓✓	✓✓	✓✓	✓✓	✓✓	✓✓	✓✓	✓✓	✓✓	✓✓

RDCO Regional Growth Strategy: Priority Projects Plan, 2017

Purpose: The Regional Growth Strategy Priority Projects Plan is a five-year plan that prioritizes actions from the Regional Growth Strategy (RGS) which encompasses all of the municipal service areas including development and growth. The document is designed to provide a focused implementation of the RGS based on consultation with RDCO staff, the RGS Steering Committee and other municipal and community partners. The Priority Projects Plan looks to ongoing projects and policies, emerging trends and issues and gaps for regional cooperation.

Key Takeaways & Economic Considerations:

- Regional coordination of services has proved successful in several service areas including solid waste management, emergency operations
- COEDC effectively provides economic development services for the region
- Regional land use planning can help to ensure availability and suitability of employment lands
- Regional agriculture planning has not been undertaken in several years with some local municipalities undertaking this on their own
- COEDC's Agricultural Support Officer provides effective services to assist farm operators and agriculture businesses
- Housing affordability is being affected by tourism (short term rental) which can increase longer term rental supply
- Housing affordability may become greatly impacted due to foreign buyers' restrictions in Vancouver pushing demand into other markets
- The report recommends Regional Planning Labs to share best practices
- The report recommends the development of a Regional Agriculture Strategy that identifies resources, trends, gaps and opportunities along the agricultural value chain.
- The report recommends an employment land inventory as the precursor to an employment lands strategy

Central Okanagan Economic Profile for Agriculture, July 2017

Purpose: The Profile for Agriculture outlined some of the global shifts occurring in agriculture as well as how those changes were also taking place locally.

Key Takeaways & Economic Considerations:

- more agricultural production being derived from smaller agricultural areas
- concentration of exports from a limited number of countries
- increasing number of agricultural importers
- changing consumer tastes, more diversity of products and not just traditional commodities

- national trend toward farm consolidation
- more specialty crops being grown due to changing consumer tastes
- increasing age of farmers and lack of succession planning
- exponential growth in cherry exports to China following 2014 trade deal gained access to Mainland
- high cost of land is a barrier to entry for new farmers
- ongoing labour challenges associated with seasonality

City of Kelowna Agriculture Plan, 2017

Purpose: The City of Kelowna Agriculture Plan provides recommendations for how the City of Kelowna can protect agricultural land and promote local agricultural through a combination of policy levers, marketing initiatives and regulation & enforcement. The report highlighted key themes that would require actionable items for the community to achieve the vision of the Agriculture Plan, *Kelowna is a resilient, diverse, and innovative agricultural community that celebrates farming and values farmland and food producers as integral to our healthy food system, economy, and culture.*

Key Takeaways & Economic Considerations:

- strengthening of local policies and regulations to protect agriculture is required
- stewarding natural resources and the environment for food
- increasing awareness of local agriculture and access to local food
- fostering and sustaining farm business and farmland
- Kelowna has seen a 14% decrease in the Agricultural Land Reserve since 1973
- strong public support for preserving farmland
- create ‘buffers’ either by planning policy or by law in vulnerable areas where residential/commercial and agriculture uses are in proximity—‘edge-planning’ where rural meets urban
- agri-tourism was identified as an area of opportunity that was not currently being exploited
- need for support infrastructure including cold storage, processing and distribution for smaller operations
- Sterile Insect Release program seen as success and opportunity to leverage success

Central Okanagan Small Scale Food Processing Study 2015

Purpose: Conducted by the Community Futures Development Corporation of Central Okanagan, this report looked at small scale food processing in terms of the landscape at the time as well as challenges and opportunities for growth in the sector.

Key Takeaways & Economic Considerations:

- although 1600 kitchens identified in Central Okanagan, access still poses a major problem
- a freight/shipping sharing mechanism could provide opportunity for small processors
- exceptional products but lack of marketing savviness limiting growth
- a platform for interaction/collaboration among processors would be beneficial
- financing specific to the food processing sector is required due to long lead time from start up to profitability
- a centralized location for processing information related to food processing, regulation required, best practices should be developed as currently this information is disparate
- food processing start-up is complex undertaken with regulations, finance requirements. A start-up guide with check-list and industry contacts would be beneficial

City of West Kelowna Westbank Centre Agriculture Plan

Purpose: The study was commissioned to investigate preferred options for bringing 44 hectares of privately held land within the Agricultural Land Reserve back into cultivation. The land had been underutilized but was seen to have high economic and agricultural potential.

Key Takeaways & Economic Considerations:

- the agricultural plan provides recommendations on how once active agricultural lands can be brought back into productivity
- the Westbank Centre could serve as an example for other underutilized agricultural lands that have not adapted to changing market trends
- region enjoys mild winters and springs, with long, hot summers. Irrigation and water servicing could allow for greater productivity
- high demand for local food and diverse base of agricultural crops that can be grown lends itself to a variety of options. Some infrastructure would be required to enable growth of the site
- cider production, cherry production and mixed production sited as most feasible scenarios for developing site
- recommendation of a food hub within the Westbank Centre to:
 - centralize production
 - centralized marketing/branding
 - provide education resources on local food

City of West Kelowna Agriculture Plan, 2011

Purpose: The plan was developed in order to identify how the City of West Kelowna can support the continued viability of farming through land protection, water infrastructure and regulatory environment.

Key Takeaways & Economic Considerations:

- some challenges with RU-zoned land being treed, sloped and lacking piped-water infrastructure
- water is of vital concern for residents due to inadequacy of precipitation and lack of knowledge around groundwater health
- agriculture is a heavy user of water but is fairly efficient
- approximately equal hectares used for pasture and forage than with major tree fruits (apples, cherries, plums, pears)
- one of BC's largest nurseries located in District
- need to educate the non-farming community about the impact, challenges of agricultural production to increase understanding and value of agriculture and local food
- farming and non-farming land uses are often in close proximity and there is potential for conflict in these areas
- fostering urban agriculture/community gardens as opportunity to increase awareness and appreciation for agriculture industry
- a rich agricultural heritage that is not currently being exploited for tourism potential (Gellatly Nut Farm and Allison Farm House-heritage sites)
- agriculture contributes more net taxes to municipality than industrial but not well known
- more intensive agriculture should be encouraged, especially those areas with renewable water supplies (Westbank and Lakeview Heights)
- development of an agricultural learning centre should be explored with partnership with UBC Okanagan, Okanagan College, etc to develop mentorship for new farmers
- continued pressure to remove land from the Agricultural Reserve and A1 zoning for other uses, especially smaller parcels that cannot sustain large scale operations
- investigation of agricultural amenity bonusing for residential density
- seasonal farm labour continues to pose challenges
- succession planning is required as two-thirds of farming population is expected to retire within 5 years and average age of Okanagan farmer is 57

City of Kelowna Agricultural Land Use Inventory, 2014

Purpose: The Land Use Inventory was conducted to look at the Agriculture Land Reserve and other agriculturally assessed lands to develop a baseline for how much land was being used for agriculture, how much land was unavailable for agriculture and how much land had agricultural potential.

Key Takeaways & Economic Considerations:

- significant support for agriculture industry through UBC, Okanagan College, Summerland Research and Development Centre as well as industry associations (BC Tree Fruits, BC Cherry Growers, BC Livestock Producers, Farm to Table program and Certified Organic Associations)
- lots of agricultural development potential with some limiting factors
 - high input costs (land, labour, water)
 - fragmented land with small parcels, roads through agricultural lands
 - some invasive species and threat of damage from wildlife
- urban expansion creates potential for conflict with farms and farm practices
- water management a concern for City of Kelowna
- growing interest in farm gate sales, organic farming and farmer's markets provide opportunity for agricultural development
- tree fruits make up 41% of the cultivated land in the ALR while forage & pasture make up 37% and vines 9%
- agricultural land base is relatively fixed so agriculture growth would likely occur as a result of new commodity types or intensification

Central Okanagan Economic Development Commission 2019 Operational Plan

Purpose: The operational plan highlights the COEDC's work on supporting and capitalizing on economic opportunities on behalf of the Region and its partners.

Key Takeaways & Economic Considerations:

- COEDC delivers programming under business retention & enhancement, investment attraction and coordination and connection
- focus on growth of new & existing businesses as most efficient use of resources for job creation
- partnerships with business, service providers, education and other governments essential to provide the necessary services for business expansion
- work on increasing profile of agriculture from both public awareness and agri-tourism perspective
- recognized need to ensure labour market information is being communicated so that training gaps and workforce challenges can be addressed
- attracting young professional and creating a community to retain them
- provide information sessions and one-on-one opportunities to support businesses
- leverage UBC's Innovation Precinct, Okanagan Centre for Innovation and YLW Aerospace Campus for investment and talent attraction
- further development of craft beverage sector through incubation

- partnership with Accelerate Okanagan for promotion, facilitation of tech-enabled companies
- continue cooperation among all the economic development organizations and shared resources (account management)
- use data and other information tools to raise awareness of programs, economic climate, resources

Innovation Ecosystem in BC's Interior Region: Asset Inventory

Purpose: This report looks at the entirety of BC's Interior and maps out assets from the post-secondary, industry, personnel, support systems and infrastructure that make up the innovation ecosystem. The scope of the report extends beyond the Regional District of Central Okanagan and agriculture, but it does demonstrate how the Region fits into the larger network.

Key Takeaways & Economic Considerations:

- UBC Okanagan, Okanagan College are part of a larger network of universities and colleges engaged in applied research
- close proximity and connection to Agriculture and Agrifoods Canada Pacific Agricultural Research Centre in Summerland
- Accelerate Okanagan among local innovation supports both in the Region and Interior
- network of over 20 Research Chairs throughout the network of Interior universities offers access to expertise
- UBCO has existing Inter-Faculty Research Institutes and Centres that support collaboration (Centre for Biodiversity, Resilience and Ecosystem Services, Okanagan Sustainability Institute)
- BC Regional Innovation Chair in Water Resources and Ecosystem Sustainability

BC Ministry of Agriculture First Nations Agriculture Needs Assessment

Purpose: The Needs Assessment was conducted to identify the agricultural activities that First Nations were currently involved in as well as activities that they would like to pursue. The goal of the assessment was to identify resources and actions required to support agricultural development.

Key Takeaways & Economic Considerations:

- First Nations participation in personal and small-scale gardens and canning operations, smoking of meat and fish and other food preservation techniques
- low participation in the dominant agriculture crops in the region including tree fruits
- First Nations had access to land and labour but lack equipment, business management skills and knowledge of commercial food processing techniques
- interest expressed in pursuing chicken farming, fruits and vegetable and greenhouse development
- funding, business planning and crop/livestock production knowledge required to enable growth

- strong interest in pursuing agriculture as economic development driver, skills development, youth engagement and community sustainability

WINE BC 2030: British Columbia Wine Industry Long-Term Strategic Plan

Purpose: The aim of Wine BC 2030 is to develop a Long-Term Strategic Plan, creating a clear roadmap that will benefit all areas of the BC wine industry. The report serves as a dynamic model designed as a high-level and visionary road map to guide implementation, facilitate decision-making, adapt to shifting external forces, and motivate an industry to grow and change.

Key Takeaways & Economic Considerations:

- globally growth in wines sales is slowing down as overall wine consumption is declining
- market penetration of BC Vintners Quality Alliance (VQA) wines is 20% of all wine sales in BC
- higher production costs and rising land prices impacting industry growth
- continued focus on building the BC brand “Wines of British Columbia” locally and globally
- recommended certification of origin to increase value of wine products
- reputation of region as a premier quality wine region
- continue to build on the reputation for exemplary customer service and wine hospitality

Analysis of Food and Farming Assets in the Golden Horseshoe

Purpose: The report looked at the entirety of the agri-food supply chain across the Golden Horseshoe and mapped out the occupation trends, the sector’s competitiveness in regards to larger trends and some subsectors of particular importance. Some considerations from the Golden Horseshoe in Ontario may be applicable and serve as a comparator for the Regional District of Central Okanagan.

Key Takeaways & Economic Considerations:

- employment growth in this region was driven by retail and food service occupations which are result of population growth
- occupations in primary agriculture (farm and food processing) saw a decline
- urban growth effect have negative impact on farm sub-sector
- gap in processing for fruits and vegetables being filled by imported products
- growth in beverage manufacturing and beverage merchant wholesalers due to growth in winery and micro-breweries
- area enjoys close proximity to consumers, positioned centrally to large Canadian and US metropolitan areas
- key area of opportunity is growth of the food processing sector/capacity to increase productivity from the shrinking land base

2. Sector Overview

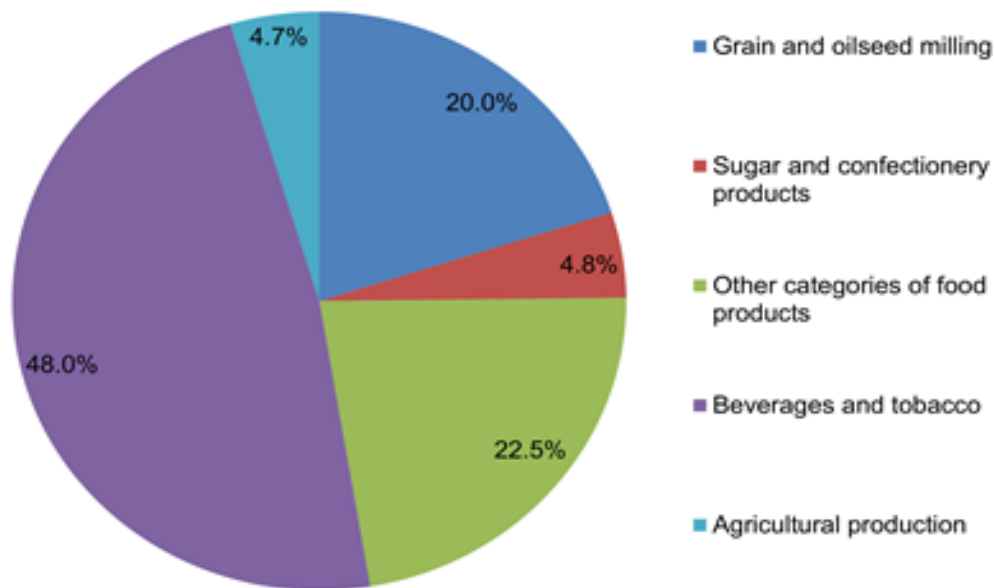
2.1 Global, Canadian and Regional FDI Trends

2.1.1 Stock of Food and Beverage Foreign Investment in Canada

The by far largest investor in Canada's food and beverage sector is the United States (US). The US direct investment position in Canada's food and beverage processing industries in 2016 was close to \$20 billion. Mergers and acquisitions involving large firms sometimes result in substantial year-to-year changes in the US direct investment position in Canada's food and beverage industries.

In contrast, there is relatively little US direct investment in Canada's agricultural production (\$647 million) or tobacco sector (\$6 million). Of the total US direct investment position in Canada's food, beverage, tobacco, and agricultural sectors in 2016, the beverage industry accounted for 48% and the food industry 47%. Subsectors within the Canadian food industry that are major recipients of US direct investment have included grain/oilseed milling (20%) and sugar/confectionery products (4.8%). Agricultural production accounted for 4.7% of the total (US Department of Commerce, US Bureau of Economic Analysis) (Figure 2).

Figure 3: US FDI stock in Canada's food/beverage/tobacco/agriculture sectors, 2016



Source: US Department of Commerce, US Bureau of Economic Analysis

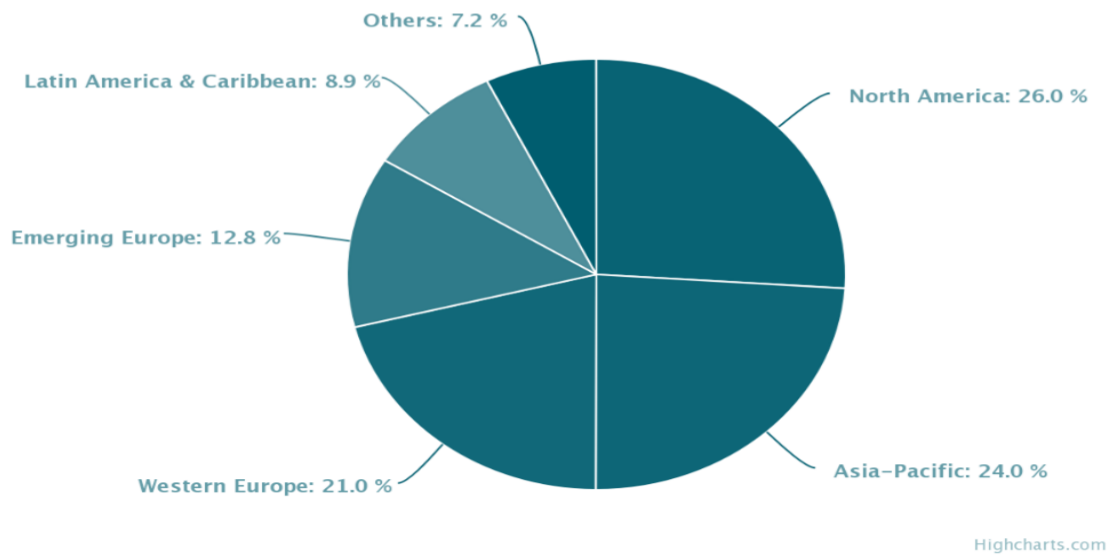
2.1.2 FDI Flows to Canada

North America received approximately a quarter of all global food and beverage FDI projects between 2012 and 2018, 94% of which destined for the US (fDi Intelligence, www.fdimarkets.com). The primary motive cited for US investments has been market access. Even when considering the much smaller size

of the Canadian market, the primary investment driver is still reported to be access to the domestic market.

Top investors are coming primarily from the US, but Europe is still one of the primary source regions and an important partner for Canada due to the Comprehensive Economic and Trade Agreement (CETA) free trade agreement with the European Union (Figure 3).

Figure 4: Agri-food FDI to Canada by Source Region, 2013-2018



Source: fDi Intelligence, www.fDimarkets.com

Between January 2012 and December 2018, 78 FDI projects into Canada by 58 companies were recorded in the food and beverage industries (fDimarkets) (Table 1). Thirty-four out of the 78 projects were new investments. The remainders were expansions or co-locations with existing facilities. 2018 was the most active year, with 18 reported projects. Most of the projects were manufacturing facilities (61%), followed by distribution activities (23%).

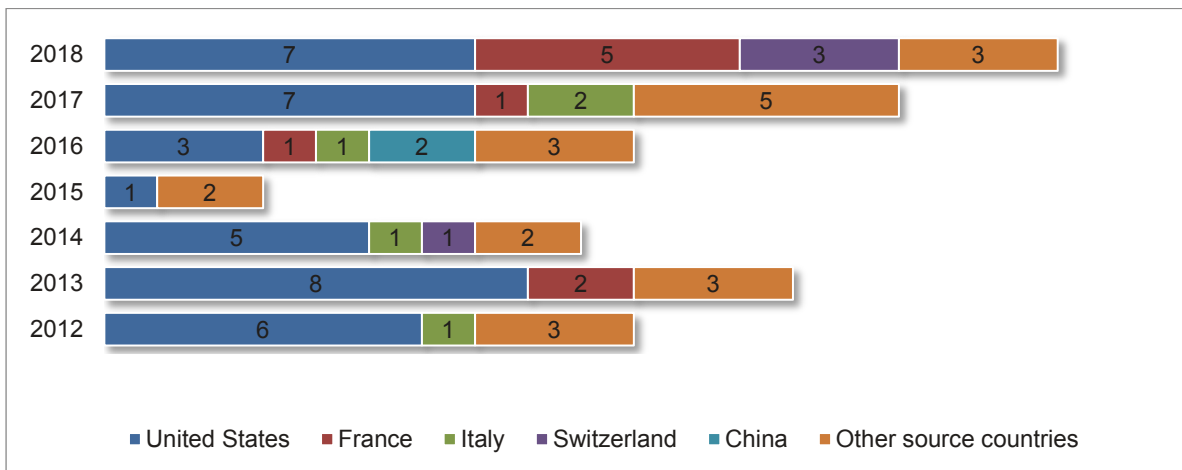
Table 1: FDI Origin

Source Countries	Total Projects 2013-2018
United States	685
Japan	164
France	131
Germany	129
Switzerland	127
United Kingdom	122
Netherlands	103
China	96
Spain	84
Italy	61

Source: fDi Intelligence, www.fDimarkets.com

The US is the top source country accounting for almost half of the projects tracked. China, however, had the largest project size on average in terms of both investment and job creation. With the CETA agreement between Canada and Europe, non-US investments have accelerated in recent years (Figure 4). In terms of regions within countries, Minnesota, US is the top source state accounting for one-tenth of projects tracked and Arkansas, US has generated the highest number of total jobs and has the largest project size.

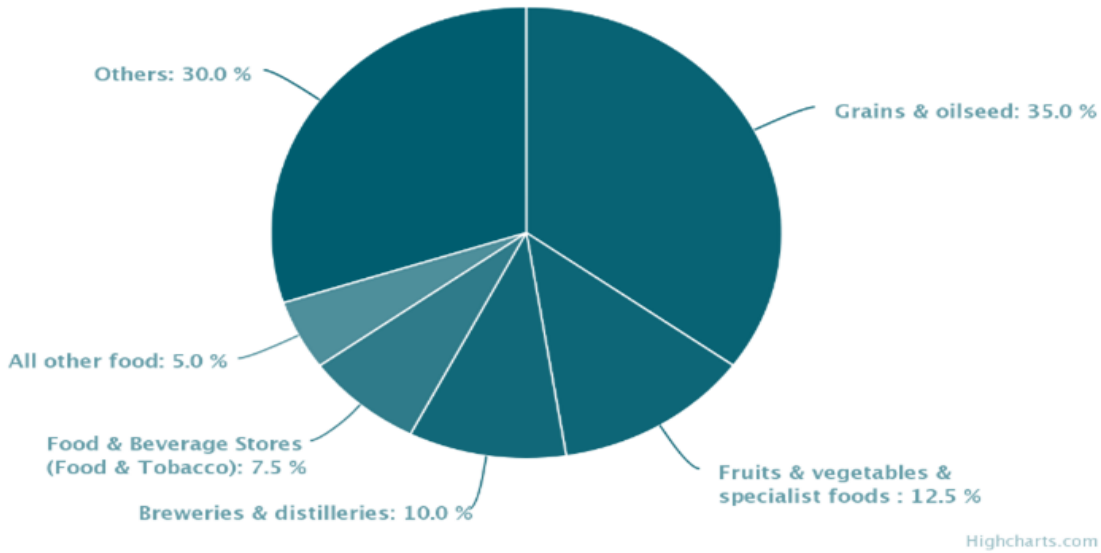
Figure 5: Number of FDI projects by year and source country



Source: fDi Intelligence, www.fDimarkets.com

Foreign investors have responded to Canadians' growing preference for healthier foods with greater greenfield investment in the fruit and vegetable processing sector over the past decade (Figure 5).

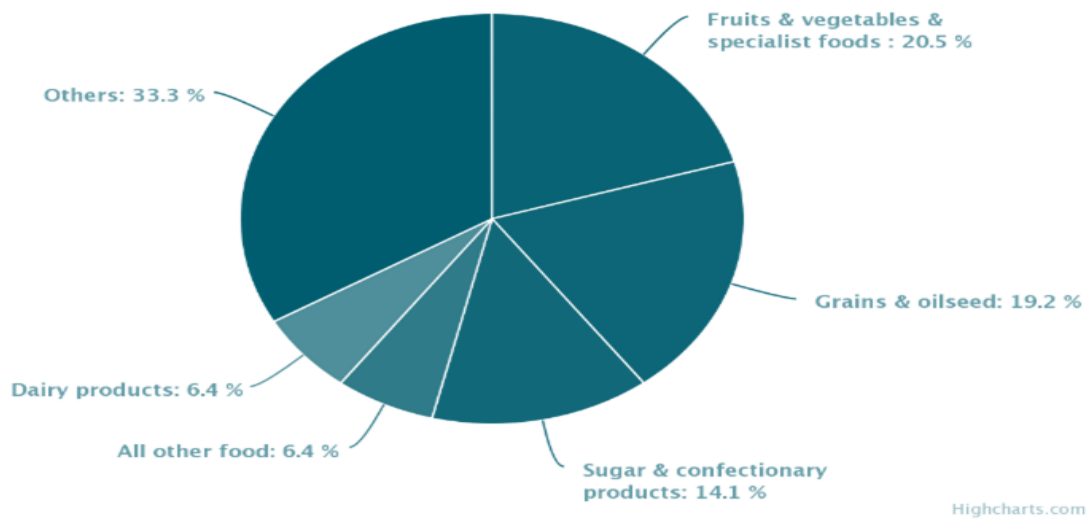
Figure 6: Number of FDI Projects in Food & Beverage, 2007-2011



Source: fDi Intelligence, www.fDimarkets.com

Technological advances have also helped to change the mix of that investment, with greater variety in value-added products driving up foreign investment in the Canadian dairy sector (Figure 6).

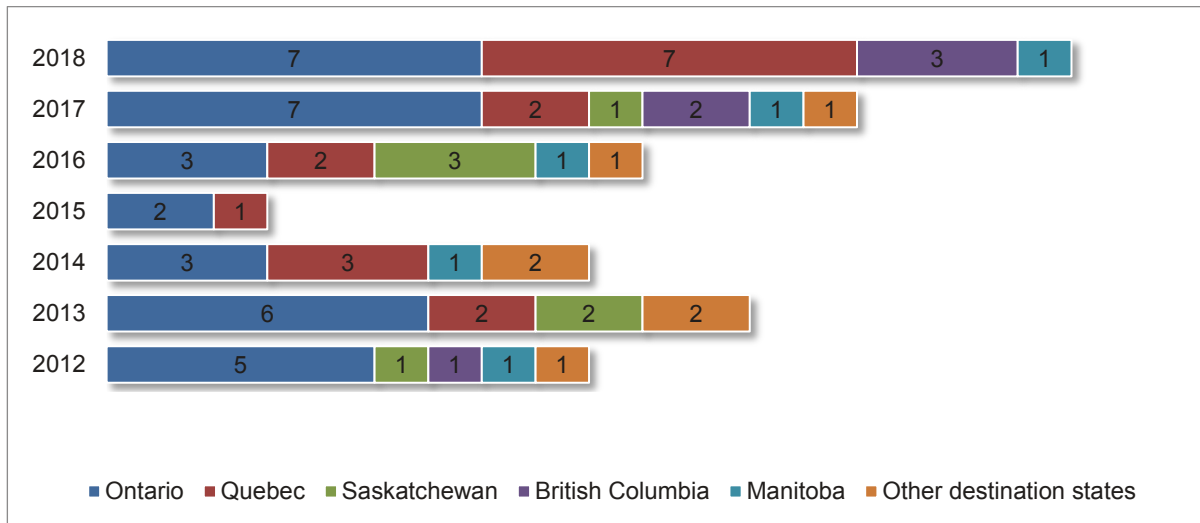
Figure 7: Number of FDI Projects in Food & Beverage, 2012-2018



Source: fDi Intelligence, www.fDimarkets.com

FDI projects since 2013 were destined primarily for Ontario and Quebec, with BC receiving less than 10% of projects (Figure 7).

Figure 8: Number of FDI projects by year and destination state



Source: fDi Intelligence, www.fdimarkets.com

One of the most recent FDI projects into BC has been the announcement of air services company Dnata, a subsidiary of The Emirates Group (Dubai, UAE) to begin flight catering services in January 2019 with a new facility in Vancouver, BC. Another manufacturing project has been the establishment by Marine Harvest out of Norway of a third BC value-added processing facility in Surrey, BC to produce salmon products across western Canada and the northwest US.

These traditional food and beverage projects are, however, only part of the story. One of the most active investment sectors in BC (and Canada) in recent years has been the cannabis industry, which is mostly classified under pharmaceuticals. Out of six reported Cannabis-related projects in fDimarket to Canada since 2017, four have been announced in BC, out of the state of Oregon, California and Ohio as well as Australia. At the same time, 27 projects by Canadian companies were announced since 2017, 30% of global projects, with destinations across the world, focused in South America, Colombia specifically, and Europe. FDI to cannabis companies in the Central Okanagan region includes [Isodiol](#) (formerly Laguna Blends) which was acquired in 2017, and [Citation Growth](#), a public cultivation and investment company.

2.1.3 Agri-food Industry Growth Trends

As one of the world’s largest food producers, Canada is a major player on the global agri-food stage. Since 2011, Canada has ranked as the world’s 5th largest exporter of agricultural commodities and the 11th largest provider of agri-food globally ([Agriculture and Agri-Food Canada](#)).

The rising middle classes, especially in emerging economies, will account for a large part of the future demand. China and India are already top 10 export destinations for Canada (Agriculture and Agri-Food Canada, 2018). Canada’s key strength in the agri-food sector is the resource availability and productivity (yield), a trust in the food safety of products and several strong agri-food clusters and government

initiatives such as [BC's UBC - Food Science Group](#), the BC Institute of Technology [Natural Health and Food Products Research Group \(NRG\)](#) and the [Protein Supercluster](#) .

BC's agriculture sales are heavily concentrated in salmon and dairy products, of which there is limited production in the Central Okanagan. In terms of specialization (the share of revenue in the national total), it also stands out in non-citrus fruits such as cherries and blueberries (Table 2).

Table 2: BC's Top 30 Agrifood and Seafood Commodities

Rank	Commodity	2016 BC Receipts (\$'000)	2017 BC Receipts (\$'000)	2016 Canada Receipts (\$'000)	2017 Canada Receipts (\$'000)	BC Share of 2017 National	BC Rank in 2017 National
1	Farmed Salmon	743,300	728,600	1,022,127	n/a	n/a	1
2	Dairy products	586,132	624,946	6,174,235	6,564,476	9.5%	3
3	Chickens	368,684	375,421	2,459,432	2,537,771	14.8%	3
4	Greenhouse Vegetables	298,443	303,562	1,331,163	1,425,900	21.3%	2
5	Floriculture	294,621	303,077	1,156,834	1,144,942	26.5%	2
6	Beef	219,860	235,868	8,795,204	8,995,844	2.6%	6
7	Mushrooms	171,358	174,789	423,851	529,136	33.0%	2
8	Nursery	158,240	156,387	495,598	477,428	32.8%	2
9	Eggs	137,519	143,477	1,030,765	1,074,853	13.3%	3
10	Blueberries	144,589	136,527	255,813	204,742	66.7%	1
11	Cherries, Sweet	56,608	84,744	55,733	88,167	96.1%	1
12	Grapes	57,064	63,121	161,840	158,637	39.8%	2
13	Halibut	58,300	58,900	120,642	n/a	n/a	1
14	Apples	50,614	55,453	222,110	225,380	24.6%	3
15	Wild Salmon	77,900	55,400	62,930	n/a	n/a	1
16	Geoduck and Other Clams (Wild)	32,800	52,000	124,557	n/a	n/a	2
17	Crab, other	44,500	51,100	52,100	n/a	n/a	1
18	Turkeys	49,169	48,278	411,845	384,439	13%	3
19	Potatoes	47,343	45,577	1,246,952	1,188,520	4%	7
20	Cranberries	44,214	45,455	152,435	121,223	37%	2
21	Hogs	32,809	32,361	4,092,413	4,495,174	1%	6
22	Hay & Clover	33,251	30,347	517,675	586,487	5%	4
23	Prawn and Shrimp	27,700	31,100	444,906	n/a	n/a	4
24	Wild Sablefish	27,600	29,300	n/a	n/a	n/a	n/a
25	Canola	27,983	27,563	9,242,093	9,917,529	0.3%	4
26	Herring	21,400	27,500	64,053	n/a	n/a	2
27	Rockfish	27,600	24,100	38,865	n/a	n/a	1
28	Raspberries	20,452	20,219	35,111	36,193	56%	1
29	Hake	18,300	19,300	26,991	n/a	n/a	1
30	Tuna	20,400	15,700	17,454	n/a	n/a	1

Source: Fast Stats 2017, British Columbia's, AGRIFOOD AND SEAFOOD SECTOR, October 2018 https://www2.gov.bc.ca/assets/gov/farming-natural-resources-and-industry/agriculture-and-seafood/statistics/industry-and-sector-profiles/fast-stats/faststatsbc_2017.pdf; n/a = not available

The agri-food manufacturing sector in BC shows many establishments in the beverage sector and baked goods as well as specialized food products. Fish and fruit farming also show the largest number of establishments in the province (Table 3), which indicates that just a few large companies do not dominate the sectors. Chicken, beef, and primary meat processing are top ten industry sectors as well in terms of sales and number of businesses. The BC beef industry is primarily cow-calf operations, predominately located in the Thompson- Okanagan, Peace River, Cariboo and Nechako regions (British Columbia Agrifood Industry, Year in Review).

Table 3: Top Agri-food and Food/Beverage Industries in BC, Dec 2017

NAICS	Description	Number of Establishments
Agriculture		
114113	Saltwater fishing	2,418
111330	Non-citrus fruit and tree nut farming	2,010
112110	Beef cattle ranching and farming, including feedlots	1,736
115310	Support activities for forestry	1,574
113311	Logging (except contract)	1,308
111940	Hay farming	989
111993	Fruit and vegetable combination farming	657
112920	Horse and other equine production	629
112120	Dairy cattle and milk production	590
115210	Support activities for animal production	520
Manufacturing		
312130	Wineries	316
311811	Retail bakeries	305
311990	All other food manufacturing	277
312120	Breweries	157
311710	Seafood product preparation and packaging	130
311814	Commercial bakeries and frozen bakery product manufacturing	123
311920	Coffee and tea manufacturing	81
312110	Soft drink and ice manufacturing	74
311614	Rendering and meat processing from carcasses	70
311410	Frozen food manufacturing	48

Source: Emsi, www.economicmodeling.com

Significant growth in agri-food sales since 2012 has occurred in baked goods, seafood, animal food, and beverages (Table 4). Suppressed data (for confidentiality reasons) indicated by “x” shows that these sectors might be dominated by fewer firms that could make a market entry, at least for standard products, more difficult.

Table 4: Trend in Agri-food Sales

Category	\$ millions						% Growth 2012-2017 (or years available)	Absolute Growth
	2012	2013	2014	2015	2016	2017		
Meat & Meat Products	\$1,971	\$1,857	\$1,724	\$1,710	\$1,594	\$1,541	-22%	-\$431
Dairy Products	x	\$1,170	\$1,169	\$1,257	\$1,310	\$1,167	0%	-\$3
Seafood Products	x	\$584	\$672	\$767	\$882	x	51%	\$298
Bakeries & Tortillas	\$583	\$550	\$647	\$729	\$868	\$1,048	80%	\$465
Animal Food Products	\$524	\$646	\$695	\$742	\$757	\$760	45%	\$237
Breweries	\$518	\$546	\$568	\$608	\$702	\$750	45%	\$232
Wineries	x	\$305	\$398	\$488	\$593	\$652	113%	\$347
Fruit & Vegetables	\$407	\$380	\$393	\$448	\$507	\$599	47%	\$192
Soft Drinks	x	\$333	\$331	\$336	\$372	\$363	9%	\$30
Other Food Industries	\$1,001	\$1,132	\$1,329	\$1,468	\$1,569	\$1,657	65%	\$655
Distilleries	x	\$1	\$1	\$2	x	x	x	x
Grains & Oilseed Milling	x	x	x	x	x	x	x	x
Sugar & Confectionary	x	x	x	x	x	x	x	x

Source: British Columbia Agrifood Industry, Year in Review

Value-added food and beverage products also contribute significantly to BC's agri-food and seafood international exports as these industries are heavily dependent on international trade. BC exports reflect their overall industry strength in seafood, baked goods, and blueberries.

Notable and growing agri-food exports in 2017 were also food preparations for manufacturing and natural health products often destined for Asian destinations, mushrooms, plants/bulb/flowers for the US market. The beverage sector, with Coffee/tea and beverage additives, is a smaller but very high-growth export segment, mainly for the US market. (British Columbia Agrifood Industry, Year in Review)

Table 5: Agri-food Exports in 2017 by Value (\$ Millions)

PRODUCT DESCRIPTION	2015	2016	2017	2017 SHARE	2015-2017 % Growth	TOP MARKETS IN 2017
Atlantic salmon	\$411.30	\$524.20	\$512.30	13.0%	25%	US, Japan, China
Food preparations for manufacturing & natural health products	\$293.60	\$306.80	\$329.10	8.4%	12%	US, South Korea, China, Taiwan, Australia, U.K., Hong Kong
Baked goods & cereal products	\$230.40	\$293.30	\$321.70	8.2%	40%	US
Blueberries	\$218.00	\$200.20	\$222.10	5.7%	2%	US, Japan, Australia, China
Mushrooms	\$131.20	\$156.40	\$153.30	3.9%	17%	US, Japan, France, Netherlands, Swaziland
Crab	\$116.00	\$141.50	\$130.90	3.3%	13%	China, US, Singapore
Alfalfa, grass seed, fodder & animal feeds	\$108.90	\$118.00	\$117.50	3.0%	8%	US
Plants, bulbs & flowers	\$96.70	\$106.90	\$112.20	2.9%	16%	US
Pork products	\$91.90	\$104.20	\$107.20	2.7%	17%	China, Japan, Taiwan
Chocolate & cocoa products	\$124.40	\$118.70	\$94.30	2.4%	-24%	US
Peppers	\$89.60	\$93.20	\$88.20	2.2%	-2%	US
Coffee & tea	\$67.00	\$77.90	\$85.10	2.2%	27%	US, Australia
Cherries	\$91.70	\$83.30	\$81.50	2.1%	-11%	US, China, Hong Kong, Taiwan, Vietnam
Fruit syrups & beverage concentrates	\$55.00	\$65.40	\$81.40	2.1%	48%	US
Hake	\$44.10	\$70.50	\$72.00	1.8%	63%	China, Ukraine, Lithuania

Source: 2017 British Columbia Agrifood And Seafood International Export Highlights (March 2018)

2.1.4 Growth Opportunities

Consumer trends towards an increasing focus on health, sustainability and at the same time convenience, have shifted innovation as well as the opportunities for smaller, niche manufacturers. Exploding emerging food sectors have particularly focused on innovative ingredients.

Opportunities	
<p>Innovative Ingredients</p> <ul style="list-style-type: none"> • Enhanced Nutritional Profile • Food Additives • Replacement Ingredients • Value Added Ingredients 	<p>Emerging Technologies</p> <ul style="list-style-type: none"> • Biotechnology • Nanotechnology • Packaging • Applied Technologies

Source: Agriculture and Agri-Food Canada

Enhanced nutritional profiles reflect the trend towards, for example, engineered varieties with higher nutritional content. **Okanagan Specialty Fruits** has been successful in following this trend. Sugar substitutes and natural food colour additives have been on the rise in the food additive segment, while one of the fastest-growing sectors has been plant/pea-based protein as meat replacements, and value-added ingredients such as new sources of fibres. Examples of Central Okanagan companies already active in this market are:

- **SunRype** ["Slim" product line reduced-calorie juices, natural fruit bars],
- **Factors Laboratories** [natural health supplements],
- **Nature's Formulae Health Products Ltd.** [contract manufacturing of natural health products, R&D etc.]

Part of the health trends has also been the growth of organic food products. The **Canada Organic Trade Association** reported a compound annual growth rate for organic food and beverages, from 2012-17, at 8.4%. BC reports the most sales per capita for this market segment.

The below list highlights Canada's key "bioactive" ingredients driving the functional food and natural health market (Agriculture and Agri-Food Canada, http://www.agr.gc.ca/resources/prod/doc/pdf/can_ffnhp_afpsn-eng.pdf):

- Omega-3 and other essential fatty acids from marine and plant sources such as canola, hemp, flaxseed, sea buckthorn and algae
- Fibre from soy, chia, fenugreek, oats, barley and pulses
- Antioxidants from blueberries, cranberries and Saskatoon berries
- Protein from milk, egg, soy, and pulses

BC's substantial forestry sector has investigated the potential from forest-based biomaterials (fibres, sugars), including with the help of the University of British Columbia **Bioproducts Institute**. Applications go beyond the food sector, however, with research into displacing petrochemical-based materials in products such as the plastics and polymers used in many industrial and consumer goods.

BC also has an exceptionally high number of workers in forestry nurseries and non-timber forest products, which has been a niche growth sector for specialized food products (e.g. mushrooms) but also as inputs for medicinal use (ginseng) and are focused on small-scale production with intensive marketing and e-commerce service needs.

The most promising of these trends can be analyzed through the lens of investment activity, which is evidence of where investors see the greatest growth potential. The venture capital database [CB Insights](#) summarized key food ingredients that have received funding support in 2016 and 2017 in the substantial US functional food and additives market:

- **Probiotics:** Food incumbents are leveraging the probiotics trend by forming relationships with start-ups.
- **Pea Protein:** Pea protein showing up in protein supplement startups.
- **Seaweed:** Startups are using seaweed, algae, and spirulina (a type of algae high in protein, amino acids, vitamin B, and iron) in a variety of plant-based products.
- **Ginger:** Many recently funded startups use ginger to add spice and increase health benefits.
- **Turmeric:** Many startups have added turmeric to bone broth, coffee blends, and more.
- **Matcha and Yerba Mate:** Many beverage startups now offer ready-to-drink matcha lattes.
- **Oats and Barley:** Startups are aiming to reinvent oatmeal and use oats in unexpected ways.
- **Chia:** Startups are using chia seeds to add texture to yogurts and sauces, as well as to add protein to bars.
- **Mushroom protein:** Startups are integrating reishi and other mushrooms into coffees, vanilla protein powders, and drinkable meals.
- **Pulses** (a category that includes beans, peas, chickpeas, and lentils) have become a valued source of plant protein for the food industry.

According to [Crunchbase](#) another venture capital database, there were a reported 45 agri-food related companies in BC that have received VC funding since 2013, the majority (27), located in Vancouver. The Central Okanagan's [Forbidden Spirits Distilling](#) was registered in the database with a \$420,000 investment in 2017. Cannabis, healthcare, and biotech were the most common categories the companies classified as, with e-Commerce and organic food ranking in the Top 10 segments as well (Table 6).

Table 6: VC Funded Agri-food Companies

BC City	Count
Vancouver	27
Victoria	4
Delta	2
Aldergrove	1
Burnaby	1
Creston	1
Kelowna	1
Langley	1
Maple Ridge	1
Nanaimo	1
North Vancouver	1
Okanagan	1
Surrey	1
Vernon	1
Whistler	1

Source: Crunchbase.com

2.1.5 Central Okanagan

Trends in job and establishment numbers in the Regional District of Central Okanagan can provide a high-level baseline for activities in the region that could provide opportunities within the broader provincial and national context.

The relevant data for investors are job and skillsets that lend themselves to other industries and clusters of businesses that could complement their operations.

According to Emsi Economic Modeling Specialists (www.economicmodeling.com), the agri-food sectors in the Central Okanagan with the highest job concentration have been the beverage, and fruit/vegetable preserving, and specialty food manufacturing (Table 7). However, both sectors have shown job growth below the national average, despite the 27% growth in beverage manufacturing. Fruit/vegetable preserving, and specialty food manufacturing have experienced a loss of almost a quarter of its workforce since 2014. The largest job providers are, however, still farms and growing at a healthy rate over the past five years. Dairy product and animal food manufacturing is still underrepresented in the Region but has shown notable job growth since 2014.

Table 7: Central Okanagan Agri-food Job Change and Concentration

NAICS	Description	2014 - 2018 % Change	2018 Jobs	2017 Location Quotient
3121	Beverage manufacturing	27%	983	4.10
3114	Fruit and vegetable preserving and specialty food manufacturing	-26%	306	3.16
1133	Logging	37%	512	2.79
1150	Support activities for farms	4%	113	1.81
1153	Support activities for forestry	17%	98	1.08
1110	Farms	25%	1,600	0.88
3111	Animal food manufacturing	86%	52	0.83
3119	Other food manufacturing	16%	103	0.53
3115	Dairy product manufacturing	116%	67	0.45
3118	Bakeries and tortilla manufacturing	6%	113	0.38

Source: Emsi

The largest number of employing businesses in the Region can be found in non-citrus fruit and tree nut farming, which also presents the region’s major agri-food employer, BC Tree Fruits (Table 8).

Table 8: Size Distribution of Employing Establishments in the Central Okanagan

NAICS Code	Description	1-4	5-9	10-19	20-49	50-99	100-199	200-499	500+	Total
111330	Non-citrus fruit & tree nut farming	44	22	24	8	2	4	1	1	106
312130	Wineries	4	4	7	11	3	2	1	0	32
113312	Contract logging	13	3	4	3	0	0	0	0	23
115310	Support activities for forestry	7	4	1	3	0	0	0	0	15
115110	Support activities for crop production	7	2	0	0	3	0	0	0	12
111421	Nursery & tree production	5	2	2	1	0	1	0	0	11
112920	Horse & other equine production	8	1	1	0	0	0	0	0	10
312120	Breweries	6	2	0	2	0	0	0	0	10
311811	Retail bakeries	2	2	2	2	0	0	0	0	8
111219	Other vegetable (except potato) & melon farming	4	2	0	0	0	0	0	0	6
111419	Other food crops grown under cover	2	2	2	0	0	0	0	0	6
111993	Fruit & vegetable combination farming	1	3	1	0	0	0	0	0	5
112110	Beef cattle ranching & farming, including feedlots	2	3	0	0	0	0	0	0	5
113311	Logging (except contract)	3	1	1	0	0	0	0	0	5
311990	All other food manufacturing	1	3	0	0	1	0	0	0	5
312110	Soft drink and ice manufacturing	2	1	1	0	0	0	0	0	4
311814	Commercial bakeries & frozen bakery product manufacturing	0	1	1	2	0	0	0	0	4
111940	Hay farming	3	0	0	0	0	0	0	0	3
111422	Floriculture production	0	0	2	0	1	0	0	0	3

NAICS Code	Description	1-4	5-9	10-19	20-49	50-99	100-199	200-499	500+	Total
311420	Fruit & vegetable canning, pickling & drying	2	0	0	0	0	0	1	0	3
115210	Support activities for animal production	2	0	0	0	0	0	0	0	2
114113	Saltwater fishing	2	0	0	0	0	0	0	0	2
112910	Apiculture	1	1	0	0	0	0	0	0	2
112410	Sheep farming	2	0	0	0	0	0	0	0	2
312140	Distilleries	1	1	0	0	0	0	0	0	2
111999	All other miscellaneous crop farming	0	1	0	0	0	0	0	0	1
112120	Dairy cattle & milk production	1	0	0	0	0	0	0	0	1
112999	All other miscellaneous animal production	0	0	0	1	0	0	0	0	1
311119	Other animal food manufacturing	0	0	1	0	0	0	0	0	1
311614	Rendering & meat processing from carcasses	0	0	0	1	0	0	0	0	1
111211	Potato farming	1	0	0	0	0	0	0	0	1
113110	Timber tract operations	0	1	0	0	0	0	0	0	1
311340	Non-chocolate confectionery manufacturing	1	0	0	0	0	0	0	0	1
311515	Butter, cheese, & dry & condensed dairy product manufacturing	0	1	0	0	0	0	0	0	1
311919	Other snack food manufacturing	1	0	0	0	0	0	0	0	1
311940	Seasoning & dressing manufacturing	1	0	0	0	0	0	0	0	1

Source: Emsi

2.2 Supply Chain & Recruitment Zone Analysis

Given the size and structure of the Central Okanagan economy, a typical purchase pattern would imply that the top leakages, with at least \$500,000 a year spent outside the region, focus on the needs for agricultural chemicals and animal food, plastic and rubber products for the supply chain and equipment, as well as machinery and electrical equipment (Table 9).

Table 9: Central Okanagan Agricultural Purchases

Central Okanagan Agricultural Sector Key Purchases				
NAICS	Purchases from	Imported Purchases	% Imported Purchases	Total Purchases
3253	Pesticide, fertilizer and other agricultural chemical manufacturing	\$21,761,890	100%	\$21,761,890
3111	Animal food manufacturing	\$11,215,979	55%	\$20,272,310
3112	Grain and oilseed milling	\$3,059,804	90%	\$3,397,287
3261	Plastic product manufacturing	\$1,555,537	83%	\$1,885,619
3262	Rubber product manufacturing	\$1,441,815	90%	\$1,596,461
3222	Converted paper product manufacturing	\$793,781	84%	\$949,437
3331	Agricultural, construction and mining machinery manufacturing	\$560,186	69%	\$807,283
3353	Electrical equipment manufacturing	\$535,070	88%	\$611,654

Source: Emsi, www.economicmodeling.com

Investigating the current size of industries that could potentially address some of these needs with advanced technologies can point to subsectors with most attraction potential.

There is some local expertise in machinery and electronics/electrical equipment but still below what a region of this size is expected to show (as evidenced by a low location quotient in jobs) and a lack of communication equipment manufacturing that relates to GIS and other precision agricultural technologies.

Given the infrastructure and land constraints, focusing on very specialized machinery and components will be the best fit. The Central Okanagan’s greatest opportunities will be focused on those sectors that do not require large industrial footprints and cluster around research organizations to access facilities and talent (Table 10). Computer systems design will be a crucial component of advanced agricultural and related technologies, and though it has shown solid growth over the past years, it is still a below-average concentration.

Table 10: Central Okanagan Supply Chain Presence

Central Okanagan Current Supply Chain Presence				
NAICS	Description	2014 - 2018 % Change	2018 Jobs	2017 Location Quotient
3331	Agricultural, construction and mining machinery manufacturing	-3%	83	0.48
3332	Industrial machinery manufacturing	68%	32	0.34
3341	Computer and peripheral equipment manufacturing	-	-	-
3342	Communications equipment manufacturing	-	-	-
3343	Audio and video equipment manufacturing	-	-	-
3344	Semiconductor and other electronic component manufacturing	-10%	26	0.30
3345	Navigational, measuring, medical and control instruments manufacturing	40%	70	0.58
3353	Electrical equipment manufacturing	156%	41	0.46
3359	Other electrical equipment and component manufacturing	-	-	-
5179	Other telecommunications	0%	41	0.68
5182	Data processing, hosting, and related services	-45%	66	0.61
5415	Computer systems design and related services	47%	1,250	0.66

Source: Emsi, www.economicmodeling.com

2.2.1 Agri-food and Tech Trends in the Supply Chain

BC supports a growing agri-tech sector, from precision agriculture tools to seed sciences, functional food, and waste management, that combine the rich resources of the province with its accelerating technology expertise and has become one of the main four venture capital funding sectors according to the Canadian Venture Capital Association. The functional food and beverage and nutraceutical sectors alone are expected to grow annually by 6.8% over the next five years. Trends in grape-based food additives, dietary supplements, and bulk nutraceuticals have seen success in the market and could be an extension to the traditional wine cluster in the region.

Across all farming segments, key technology advances have focused on automation, monitoring, and sustainability. Machine harvesters and pruners, even for boutique growers, are becoming increasingly popular and necessary due to labour shortages. The global agricultural robotics and mechatronics market is expected to grow at a compound annual rate of 24% between 2019-2024, dominated by the North American market both in terms of development and adoption (Modor Intelligence). The French start-up company [Vitibot](#) received a \$3 million investment just last year for commercializing their autonomous wine robots in 2019, and the Israeli company [Fieldin](#) has developed a data software service that optimizes pest management in orchards and vineyards.

Smart devices and analysis software that is scanning and tracking the health of especially more susceptible and higher value crops have increased efficiencies in fertilizer applications, the timing of seeding and harvesting and avoiding potentially devastating disease outbreaks. The global agricultural [sensor](#) market is expected to reach USD 14.3 billion by 2023, at a compound annual rate of 14% over the next five years, dominated by soil moisture sensors.

The growth of urban and indoor farming has accelerated the growth of especially water-saving technologies and is expected to do so in the future. California's [FloraPulse](#) has developed patented water microsensors for vineyards and orchards.

With the advancements and wider adoption of drone technology, aerial crop analysis now allows even smaller growers to have another way to track their farming operations and what sensors and machines are reporting. Companies such as [vineview](#) out of Halifax, NS, have specialized in applying such technology specifically to vineyards.

As a major export commodity, wine and fruit producers are also continuously looking for innovative packaging, shipping and payment solutions. This is even more evident in the nascent cannabis sector. From cryptocurrency and eCommerce platforms to highly specialized packaging, there is an extensive supply and value chain associated with the growing sector, including new cosmetic and food products.

2.2.2 Connecting Trends Analysis to Recruitment Zones

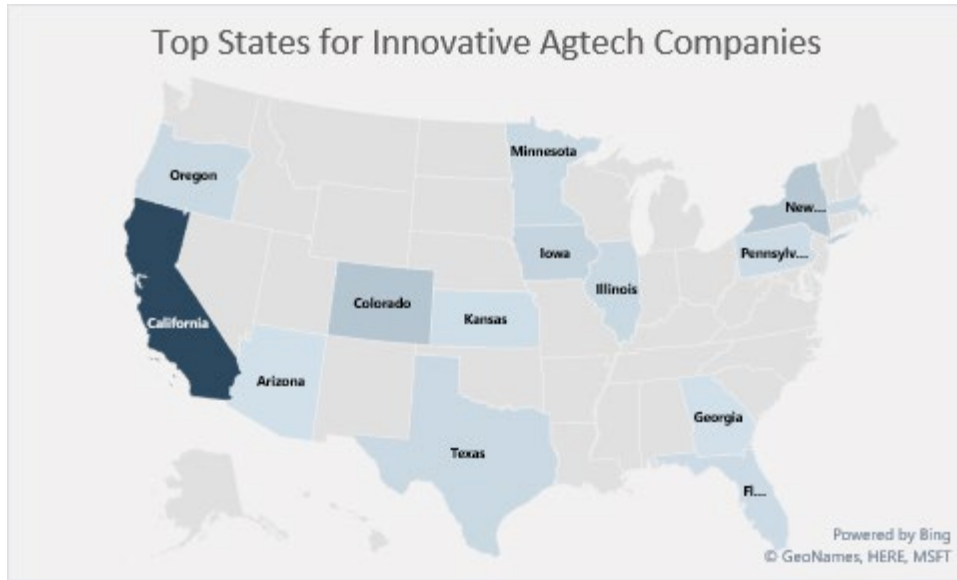
The trend analysis has identified key areas for investment attraction and form the basis for crafting a targeted investment attraction strategy that seeks to address supply chain gaps and strengthen the overall ecosystem.

The recruitment zone analysis is a targeting tool that identifies where to find the greatest concentration of expanding companies who would be receptive to the Central Okanagan's value proposition.

2.2.3 Recruitment Zones

Agri-tech companies, as identified by the technology and private equity database www.crunchbase.com are particularly concentrated in California, as well as Colorado and New York (Map 1).

Map 1: Locations of Agri-tech Companies in the US



The product of these growth companies range from soil science, to waste management, to data applications but in California are particularly oriented towards software. Other agricultural heavy states in the Midwest such as Minnesota, Iowa and Illinois, have established themselves as agtech leaders as well (Table 11).

Table 11: Number of Innovative Agtech companies by State

State	Number of companies
California	68
Colorado	15
New York	14
Iowa	9
Illinois	7
Massachusetts	7
Minnesota	7
Oregon	7
Texas	7
Florida	6
Pennsylvania	6
Kansas	5
Arizona	4
Georgia	4

Source: crunchbase.com

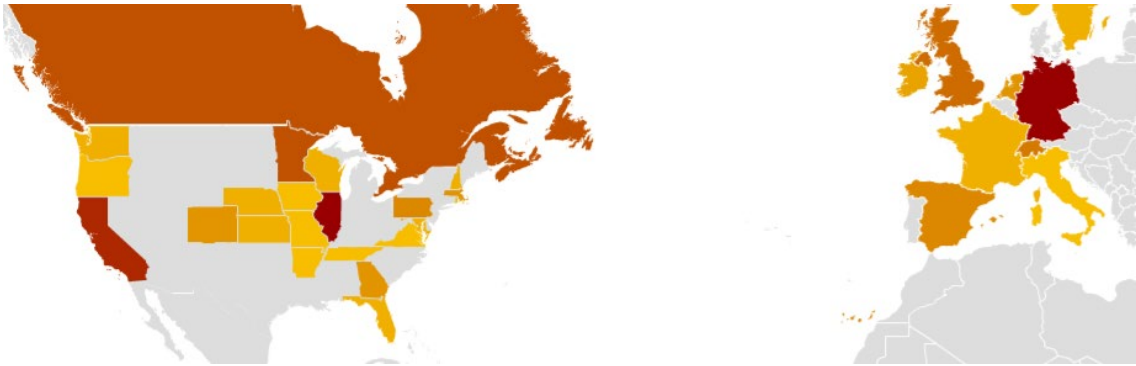
Internationally, FDI projects in IT, business services, life sciences, machinery, and components that have supported the food & beverage sector, have originated primarily from Germany, as well as Israel and Switzerland, especially around biotech (Table 12). Within the US, California still dominates, but also again Illinois, Minnesota and Colorado (Map 2).

Table 12: FDI Investing Companies Internationally

Countries	Investing Companies 2013-2018
United States	52
Germany	13
Canada	8
Israel	7
Switzerland	6
United Kingdom	5
Japan	4
Netherlands	4
Spain	4

Source: fDi Intelligence, www.fdimarkets.com

Map 2: Location of FDI Investing Companies



Source: fDi Intelligence, www.fdimarkets.com

The cannabis sector is unique as it is tied to government regulations and therefore, does not necessarily overlap with all traditional agriculture hubs. Oregon and Washington State, as well as Nevada, become more prominent targets (Map 3). International investments are also still almost exclusively coming from the US (Table 13).

Map 3: Cannabis Related Companies



Source: Gazelle.ai

Table 13: Cannabis Related Companies by State

Top 10 States	Number of companies
California	42
Colorado	37
Oregon	21
Washington	18
Massachusetts	5
Nevada	5
Florida	4
Texas	4
Arizona	3
Illinois	3

Source: Gazelle.ai

3. Community Engagement Summaries

3.1 Workshop Summaries

Two workshops were conducted on April 29th, 2019 with participation from industry representatives in session one and participation from support organizations, including academia, in session two. The session format included a short presentation of Agriculture and Agri-foods Sector Snapshot and FDI Trends and then an open discussion facilitated by guiding questions. The below provides a summary of these sessions with participants.

3.1.1 COEDC Agriculture Workshop - Industry Summary

What do you think are the Central Okanagan's Agriculture and Agri-food sector's greatest strengths/assets? (Physical and intangible)

- Summerland Research Centre
- Climate, weather attracting people and water, we have water where we live, enhanced by the growers, agritourism
- Wine chair located in the region
- Farmers markets and buy local movement
- Strong wine organizations/associations
- Proximity to Vancouver (gateway to the Pacific through road, rail and ocean) – lots of export products
- Tourism sector, supports the primary agriculture industry through agritourism
- Labour force and the high skills/training and knowledge found here
- The ALR is a strength – the ALR was a protection that has worked

What opportunities for growth exist in the Agriculture and Agri-food sector?

- More local sales and more smaller scale farming
- Participation in farm groups – that is huge
- Cherry growers are learning where they can plant later in the season for late cherries so when Washington season is done we're the only ones with cherries
- Pears and other new crops or varieties to the region
- Access more markets and technology for packing and improvements (to processes)
- Food tourism is good but opportunities to grow through collaboration with other products/ industries. Wine pairs well with cheese, fresh vegetables, and chocolate

- Next generation food purchasing trends – they want nutrition from the food in raw form /natural form they don't want it in the pill form so there is an opportunity where we can meet those requirements for raw form that is fresh and convenient

Who is your go to resource for information, research, programming or support?

- Provincial support has improved again. After ALR was established they put money into ag support but each successive administration has been reducing that support and funding. Now there is more money going back in due in big part to the resurgence of the markets and diversification
- I use google and do self-research about new product lines/crops
- We do a lot of internal research gathering to be able to access funding supports, it's time consuming
- Some federal support and programming areas, rhetoric provincially and federally 100% support the initiative, they say they want people to improve and growth

What local funding supports have you accessed?

- Scientific Research and Experimental Development Tax (SRED) funding, some student hiring funding – some is easy to access but with capital investment is larger
- Consultants do proposal writing, but charge 15%,
- I've got the buy local funding

What do you see as the most relevant support organizations including accelerators/incubators?

- Proposals are hard, demands placed on the producers for the safety, each need to do their part, for the protection of society
- Province and federal – export support and for trade missions in market
- Washington and Oregon have really good information resources for producers
- The province information is out of date, find some up to date report: UBC Vancouver
- Local universities are focused on water and high visibility environmental
- BC Cherry associations
- Grape growers,
- Wine associations,
- Ontario – OMAFRA has lots of traction and funding at the provincial level

What support (funding, research, information) is missing in the Central Okanagan?

- BC fruit growers, vs. BC tree fruits, co-op funded research,
- Have had successful community engagement officers and workshops in the past,
- Young agrarians (support and education) connection to the older farmers to do land matching
- Cooperatives and more community farms,

What weaknesses do you see in the Agriculture and Agri-food sector?

- Some (producers) are not diversifying
- The age of the industry is a challenge, kids going away, some are coming back but a lot of these people with the old apple varieties they are of an age and there is no energy left to change, in the fruit industry that's made land available, don't want to sell the land, creates the availability of land, locked up, have to be very specific, different places have different conditions, I feel the local sales thing would be good, not used
- Consolidation of the retail has strengthened their power and adversely impacted producers negotiating ability
- Competition with orchard lands in the states – can purchase larger parcel size and for less than people are paying per acre in BC,
- Funding from the states starts at the bottom (not the case here)
- Equipment is a problem, there are not opportunities to rent or lease equipment,
 - Grants take time – the concept of what they do and the hurdles are limiters as some of it is so far ahead

What threats do you see for the Agriculture and Agri-food sector?

- CFI do outbreaks, going to the retailers and demanding traceability back to the farm and retailers want the consumer to pay at the same time need to comply so passing the cost on to producers – system I'm putting in \$125K to put in just for that
- Big retailers are horrible to work with, all those costs come back to the producers
- Issues for young people trying to get into agriculture, think for local kids there is not support and having resources locally would help
- Legislation and backlog from the province slows the pace of innovation
- Trade battles have massive impact and these things can escalate these are sensitive industries with low margins and it can put growers and processors out of business – the other governments are willing to spend money to support producers such as in the US or other countries
- The cost of getting into the business is very high and no one to take over for operators who want to exit or retire – can't afford market price

What does the Agriculture and Agri-food sector look like in 10 years?

- Farms consolidating and becoming big business
- Increased technology
- The more regulation make it less affordable for small land – Doing things differently as in the ALR is not efficient so changes will need to be made
- Cost of local food vs. food that costs more, producing and the costs are so high
- Greater consumer awareness will put pressure on local farm practices

3.1.2 COEDC Agriculture Workshop - Support Organizations Summary

What do you think are the Central Okanagan's Agriculture and Agri-food sector's greatest strengths/assets? (Physical and intangible)

- Lake, system, water it provides, a lot of the ag production
- Wineries, lots of incomes, agritourism is such a big thing and there is more offerings like breweries and other value added agriculture.
- Promotion and support for agritourism through the agriculture/farm loop and wine trail, etc , they have helped promote and raise awareness to bring visitors
- Diversity, grow so many things here, good food, culinary quality, beautiful thing to experience
- Research capacity, at the federal Summerland research center, been there 100 years, deep wide experience in regionally relevant areas
- University and college, research and training, skills development, at the college it offers a suite of courses related to wine and viticulture, distilling and fermenting, management and business training, entrepreneurship, Chemistry, biology, microbiology, botany programs, work with the local community, fungi, increased cherry or wine production, agriculture bio mass or products
- Local government Kelowna and West Kelowna have agricultural plans that work as a how to guide for farmers
- Lots of people want to live near farms but need to protect farm production and also promote growth
- Vocal and active farming community they want to talk and provide input, farmers are not shy,
- Programs like the young agrarians, land matching for new farmers and striving to create stability. This is allowing land to be put into production matching an aging farmer who is not able to pass on the farm
- Experiences and newness combine in the region – lots of old farms and startup farms, entrepreneurship and the vibe of the valley is a huge advantages
- BC's reputation in terms of food and agriculture, with ease of access to Washington and Oregon

How would you describe the local Agriculture and Agri-food sector's research infrastructure?

- Robust, some room for improvement and expansion but moving in a positive direction
- Federal perspective, that we have one is an amazing asset, connected to a network of other federal research, may have relevance to other areas of the country if other centers,
- At the university, range of researchers in the dirt, plant technology, through horticultural, equipment and processing, the university is a wealth of support
- University ability to expand to support other industries, some programs are in the Vancouver campus, see some of it shift here,
- At the college level they have a full offering of courses they too are working in other areas including indigenous research and knowledge, the college applied to the NSERC, federal funding to supply

centers, the college applied to this program, waiting with great optimism if they are successful that will fill a gap, certain lab work was being done elsewhere

- Wine testing solid samples were being sent to Guelph, do it here create more capacity and develop new technology – the new beverage technology access centre at the college will provide that
- Ministry of agriculture does some farm level climate change dollars for research on farms
- From a farm side is that people are unaware or don't know what they can get help with

Are there key individuals locally that we should know about (research and expertise)?

- Summerland
- UBC Okanagan, Okanagan College
- Some private labs and institutes
- Kalamalka forestry Centre (climate change, soil sampling)
- Need a registry of all the farmers in the industry – farmers are not connected so a registry of all the farmers and who producing what to create a supportive network
- Suggest all the calls come to the one Kelowna office person, industry association, mentorship includes with the groups
- Local offices and person, cherry association, need to engage more people to do that support

What local funding supports exist for the Agriculture and Agri-food sector (e.g. government branches, government initiatives like Growing Forward, or the Investment Agriculture Foundation of BC)?

- CAP partnerships, replant programs knowledge transfer programs,
- Really about our lens to not duplicate what is available, provide additional guidance, parameters matching within to make this more accessible, need for this
- Not sure how many programs, municipal default, programs agriculture land and planning do you get those,
- From local government no funding on either side, if we want funding for agricultural you have to budget through planning, some people handle it, some are land use based, don't have time
- People call because they want money, government doesn't support infrastructure, government more interested in research
- Different jurisdiction with local government is front lines, connections between levels of government the staff we want to be able to provide the right direction with new regulations, we communicate that, and try to do well, worry about providing people the right direction, strengthen our connections,
- Farms think of themselves as farms and farmers, but farms are small or big businesses, they are entrepreneurs
- Renewable energy – are farms able to access

What do you see as the most relevant support organizations including accelerators/incubators?

- That one person would have that knowledge, the province, regional district, partners to funnel in, there is a significant need to point people in one place, if you can point them in the right direction, send a link to the zoning bylaw, if you have questions, trying to centralize the data
- ALC play a large but there is not the staff to do this more locally, the ALC needs more compliance people
- Entrepreneurship support at local governments
- Research at Summerland,
- British Columbia dedicated to agriculture, venture accelerator network in the Fraser valley access through the Okanagan, the others are in Ontario, try to find ways to draw them out here beyond the sector specific ones there are sector neutral accelerators that any could access,
- Accelerate Okanagan, incubators, think about investors, and investor community, local investors, they are interested in and can be approached by the ag community and ag tech, innovation, climate change reports,

What significant opportunities for foreign direct investment or business growth do you see for the Agriculture and Agri-food sector?

- There is lots of local and foreign investment due to the good ag sector reputation as a safe and healthy high quality producer of food
- Cannabis – ALC tried to provide a more flexible option it gets taken advantages
- Regulation meant to do good things but toll on producers is risking time and money
- Winery's and agritourism, living in the winery areas not great for the neighbors the size and scale is crazy
- Rowdy tourists,
- Opportunity for value added products

What weaknesses do you see in the Agriculture and Agri-food sector?

- Labour, access to temporary workers
- Lack of agriculture based university programs – People have to go out of province to get agriculture training
- ALR protect agriculture land but not much to support farmers
- Seeing a lot of farmers need to diversify but those options are being taken away, the communication on the regulations, spoken with the ALC no communication to farmers, local governments did a whole thing on the TFW housing communicated and they now can't do what was communicated, empowering the farmers in what they can and cannot do
- Development has pros and cons – need agriculture buffers and land title
- People have misconception about living near a farming operation – noise, machinery, production could change – so rural urban interface is an issues.

What threats do you see for the Agriculture and Agri-food sector?

- Climate change and increased weather events like fires
- Water availability and quality, Antiquated channel system, and increased algae/ nitrogen the water for ag is being affected
- New agriculture ways and regulations for farmers
- Rural urban complaints
- Land prices are high – protection for food production not value added luxury products like wine and cannabis
- Need to support smaller scale business to improve food distribution food access, price of land and equipment, leasing unless you have a lot of money to get started could get kicked off land when lease ends after a number of years
- Price of apples, they are struggling, apples are going into cherries profitability is larger
- How many farms in BC make it on the farm income alone – many farmers have full time jobs
- How much income can the land parcel support – does the value added option exist for every parcel and is it profitability.

What does the Agriculture and Agri-food sector look like in 10 years?

- Better water systems and sustainable energy systems,
- See more urban agriculture and more in metropolitan areas and other ways to meet the demand locally and grow within that space
- Value culturally and identity in the way we see farming, going on or reemerging it, very important value and regulation to embed that value to insulate it from the other pressures
- More valued by society, paying attention more to what's happening as things become more expensive
- Movement of people who care and who want to feel that engagement
- Movement to food hubs and producer generated markets will see more of that here

3.2 Interview Summary

1. What do you think are the Central Okanagan's Agriculture and Agri-food sector's most important assets?

Most respondents readily identified the same areas of strengths, including:

- Location and transportation infrastructure (Highways, Airport);
- Productive Land where a diversity of agricultural products can be grown;
- Strong agritourism demand;
- High-quality universities, colleges and research facilities applied viticulture, wine and beverage centre, vineyard operations, molecular biology, chemistry, biochemistry, soil inputs, impacts;
- Ample access to water for agriculture;
- Climate is suitable for agriculture;
- Agricultural Land Reserve (ALR); and
- Public support for farming in the community.

2. How would you describe the local Agriculture and Agri-food sector research infrastructure?

- "Pretty good, strong research sector for the most prevalent commodities, bees, big crops";
- "If there are services, they are hard to find, local extension services not available. Farmers that have questions are really in the dark";
- "Summerland Research institutes I think its reasonably good, the federal centre is 100 years old and has been working here in fruit, tree fruit and wine industry";
- "With the college and university, here training and new talent, absorbed, its very key"; and
- "Private research and lab and agroforestry facilities are worth noting."

3. What opportunities for growth exist in the Agriculture and Agri-food sector?

Most respondents had difficulty mentioning specific opportunities; the most mentioned were:

- Research and development at the Summerland facility developing new cherry varieties that allow growers to have a longer season and sell with higher prices;
- Increased interest in local food and direct sales from farm to consumers;
- Agritourism in the wine industry "Not just what is in the bottle, the whole experience grape growing and winemaking";
- "I see within my industry, huge focus in organic...it appears everyone is moving towards that, Costco has a huge focus on organics"; and
- Improving access to labour and equipment "Co-ops, equipment sharing."

4. Who is your go-to resource for information, research, programming or support?

Most respondents indicated they do not have a go-to resource for information, research programming or support, indicating that Google or conversations with other farmers are their main sources of information. A small group listed the following sources:

- Ministry of Agriculture “Production insurance, safety net, enrolled for ten years”;
- Summerland Research Centre; and
- Tourism Kelowna.

Industry Associations were also mentioned, including:

- BC Tree Fruits, BC Grape Growers Association, BC Wine Grape Council and the Canadian Vintners Association.

5. What local funding supports have you accessed?

Most respondents have not been able to access any funding programs.

- “No, not yet, applying for post farm food safety programs, connected to the abattoir, there is an on-farm food safety program”;
- “Provincially IAF, Investment Agriculture Foundation”; and
- “Nothing out there, trying to find what’s there.”

6. Are there key individuals locally that we should know about (research and expertise)?

Most respondents were unable to name individuals, some suggested that there is a lot of information coming from organizations, but the individuals are not prominent. The individuals listed were:

- Tracy Guidi City of Kelowna Agricultural Plan and Policy;
- Related to Organics Emily Holmes new Agrologist;
- Myrna Stark Leader from COEDC;
- Young Agrarians (Tessa Wetherill); and
- Professor Deborah Buszard, Deputy Vice-Chancellor and Principal of UBC’s Okanagan campus in Kelowna.

7. What local funding supports exist for the Agriculture and Agri-food sector?

Most respondents were unable to list which funding supports exist in the sector the following were mentioned:

- Farm Credit Canada;
- Community Futures;
- BC Land Matching program; and
- Investment Agriculture Foundation of British Columbia.

8. What do you see as the most relevant support organizations, including accelerators/incubators?

Respondents were split on this question, with the majority unable to name any support organizations apart from the industry associations, Accelerate Okanagan, UBCO, Okanagan and the Summerland Research facility. Other groups mentioned were:

- Tourism Kelowna;
- Other Farmers;
- BC Ministry of agriculture;
- Community Futures;
- Young Agrarian;
- COEDC;
- MITACS; and
- University Liaison Office.

9. What significant opportunities for foreign direct investment or business growth do you see for the Agriculture and Agri-food sector?

Most respondents did not feel there were significant FDI opportunities in the region beyond those sectors which they indicated have already received outside funding, specifically vineyards/wine industry, cannabis and cherry producers.

Two other opportunities mentioned were:

- The development of biocomposites “Incorporating wood residue hemp, fibres, into composite materials, blends”; and
- “Direct to consumer sales “CSA, Community Supported Agriculture; they pay upfront for a box of produce. For small farmers, it’s amazing, money upfront. All successful new farmers are doing this; this is a local food movement.” This includes upgrading and investing in technology-enabled agriculture for production, sales, and distribution.